

1.0 DESCRIPTION

The WT-31 is a three channel rolling code mini transmitter operating at a frequency of 372.5 MHz. The WT-31 is intended for use in gated communities for access through gates and garage doors. The transmitter is used with both Linear's RWR remote Access Control Receiver and Wayne Dalton's garage door operators. Each transmitter comes from the factory sequentially coded. This transmitter is incorporated with Microchip HCS200 code-hopping encoder which has a 66 bit transmission code length. The transmitted code is different every time a button is pushed to protect against unauthorized attempts to gain access to the gate or operator. Power is supplied by the GP-23 type 12 volt battery provided. Battery life is estimated at 2 years under typical conditions.

The WT-31 is compatible with Wayne Dalton's Rolling Code® format receivers.

2.0 OPERATION

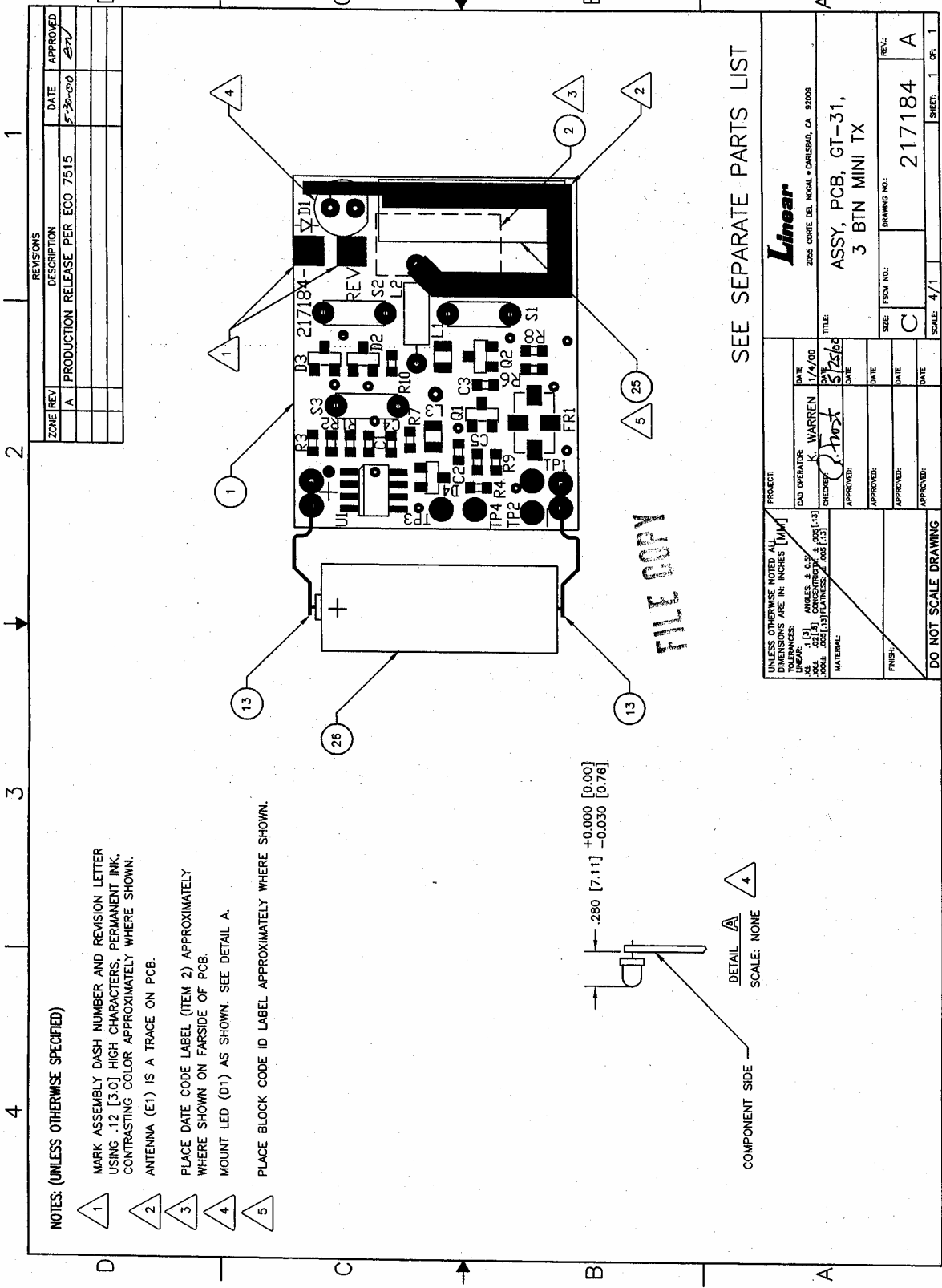
The WT-31 is activated by pressing any one of the three buttons. Upon activation, the LED illuminates and power is provided to oscillator Q1 which outputs a 372.5 MHz signal to the RF output transistor Q2. The frequency of oscillator Q1 is stabilized at 372.5 MHz by surface acoustic wave (SAW) resonator FR1. Data output at U1-6 modulates the base of transistor Q2 which transmits the pulse-modulated carrier via the antenna E1.

3.0 SPECIFICATIONS

Product Identification:	WT-31 mini transmitter (ACP00931).
Encoding Format:	Keeloq Rolling Code.
Encoding Technique:	Each transmitter is programmed with the manufacture's ID number and a sequential transmitter ID number.
Number of Channels:	Three.
RF Carrier Frequency:	372.5 MHz \pm 125 KHz
Power Requirements:	GP-23 type 12V battery.
Visual Indicator:	Red LED.
Operating Temperature:	0° C to +70° C. Tested -20° C to 70° C.
Size:	2.4" x 1.4" x 0.55".
Current Consumption:	20 mA (average) transmitting.

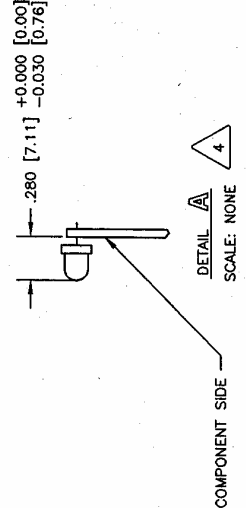
All specifications are nominal unless specified.

REVISIONS		DATE	APPROVED
ZONE REV	DESCRIPTION		
A	PRODUCTION RELEASE PER ECO 7515	5-30-00	STV



NOTES: (UNLESS OTHERWISE SPECIFIED)

- 1 MARK ASSEMBLY DASH NUMBER AND REVISION LETTER USING .12 [3.0] HIGH CHARACTERS, PERMANENT INK, CONTRASTING COLOR APPROXIMATELY WHERE SHOWN.
- 2 ANTENNA (E1) IS A TRACE ON PCB.
- 3 PLACE DATE CODE LABEL (ITEM 2) APPROXIMATELY WHERE SHOWN ON FARSIDE OF PCB.
- 4 MOUNT LED (D1) AS SHOWN. SEE DETAIL A.
- 5 PLACE BLOCK CODE ID LABEL APPROXIMATELY WHERE SHOWN.



SEE SEPARATE PARTS LIST

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES [MM]		PROJECT:	
LINEAR TOLERANCES:	[X] ANGLES: 0.05°	CAD OPERATOR:	K. WARREN
[X] HOLE CONCENTRICITY: ±0.005 [13]	[X] HOLE POSITION: ±0.005 [13]	DATE:	1/4/00
[X] PLATE FINISH: 200E [13]	[X] PLATE THICKNESS: 200E [13]	CHECKER:	S/2/00
MATERIAL:		APPROVED:	
FINISH:		APPROVED:	
		APPROVED:	
		APPROVED:	
DO NOT SCALE DRAWING		SIZE:	FSCM NO.:
		SCALE:	4/1
		DRAWING NO.:	217184
		REV.:	A
		SHEET:	1 OF 1

PRINTED 24-Nov-04 12:09 PM

LINEAR LLC

EFFECTIVITY DATE: ALL

S I N G L E L E V E L B I L L S O F

PARENT PART: ACP00931

F/G WT-31,3PB MINI XMTR UM
ERC: # SRCE CODE: P TYPE: * ABC

ITEM NO	COMPONENT PART NUMBER/ UM PART DESCRIPTION-REMARKS	ERC	PRODUCT CODE	COMM CODE	S T S A P C Y P B L	EXTENDED QTY PER
0001	217182-04 EA ASSY,MECH,WT-31	#	NP	99	P * P * P	1
0002	200926 EA BAG,PLASTIC,4X5	B	99	CU	P 1 P C P	1
0003	224229 EA INSTR,INSTL,WT-31	#	NP	CE	P * P * P	1
0004	811089 EA LABEL,BAR,MSTR CTN,WT-31	#	NP	CE	P * P * P	0.100000
0005	200181 EA BOX,PACKING,800	A	99	CU	P 1 P C P	0.100000
0006	220703 EA BOX,SHIPPING,21.46 X 14.97 X 13.70	A	NP	CU	P 1 P * P	0.002000
0007	217276 EA LABEL,BLOCK CODED TX,BLANK	A	NP	CE	P 1 P * P	0.102000
0008	208838-01 EA ASSY,KEYRING,SWIVEL	B	99	99	P 1 P C P	1
0009	711089 EA LABEL,UPC,SINGLE BOX,WT-31	#	NP	CE	P * P * P	1
0010	911089 EA LABEL,BAR,SHPG CTN,WT-31	#	NP	CE	P * P * P	0.002000
0990	217181 EA F/G MINI TRANSMITTER	A	NP	DC	P 1 P * P	0
0991	224225 EA SPECS,WT-31	#	NP	DC	P * P * P	0
0992	224226 EA BLOCK DIAGRAM,WT-31	#	NP	DC	P * P * P	0
0993	224244 EA PROC,BLOCK CODING,WT XMTRS	#	NP	CE	P * P * P	0

NOTES:

PRINTED 24-Nov-04 12:09 PM

LINEAR LLC

EFFECTIVITY DATE: ALL

S I N G L E L E V E L B I L L S O F

PARENT PART: 217182-04

ASSY,MECH,WT-31

UM

ERC: # SRCE CODE: P TYPE: * ABC

ITEM NO	COMPONENT PART NUMBER/ UM PART DESCRIPTION-REMARKS	ERC	PRODUCT CODE	COMM CODE	S	T	S	A	P	EXTENDED QTY PER
0001	217184-03 EA ASSY,PCB,WT-31	#	NP	99	P	*	P	*	P	1
0002	217087-004 EA CASE, TOP,GT-31, COOL GRAY PMS5C	#	NP	DC	P	*	P	*	P	1
0003	217088-002 EA CASE, BOTTOM,GT-31, COOL GRAY PMS5C	#	NP	DC	P	*	P	*	P	1
0004	222984-002 EA BUTTON,GT-31, CONCAVE, WHITE	#	NP	DC	P	*	P	*	P	1
0005	202847 EA LABEL, WARR/DATE, 1 YEAR, GRAY	C	99	CE	X	1	P	C	P	1
0006	224231 EA LABEL, FCC/DOC, WT-31	#	NP	CE	P	*	P	*	P	1
0007	213798 EA SCR, TF, TYP B, 2X3/8, FLH, PH, S/BLK OX	B	NP	CG	P	1	P	*	P	1
0008	217362 EA LABEL, BLOCK CODE, TX ID, CUSTOM	B	NP	CE	P	1	P	*	P	1
0990	217182 EA ASSY,MECH,GT-31, 3 BTN MINI TX	A	NP	DC	P	1	P	*	P	0
0991	224220 EA TEST PROC, WT ROLLING CODE XMTRS	#	NP	DC	P	*	P	*	P	0
0992	224244 EA PROC, BLOCK CODING, WT XMTRS	#	NP	CE	P	*	P	*	P	0

NOTES:

PRINTED 24-Nov-04 12:09 PM

LINEAR LLC

EFFECTIVITY DATE: ALL

S I N G L E L E V E L B I L L S O F

PARENT PART: 217184-03

ASSY,PCB,WT-31

UM

ERC: #

SRCE CODE: P

TYPE: *

ABC

ITEM NO	COMPONENT PART NUMBER/ UM PART DESCRIPTION-REMARKS	ERC	PRODUCT CODE	COMM CODE	S T S A P C Y P B L	EXTENDED QTY PER
0001	217183 EA PCB,GT-31,3 BTN MINI TX	B	NP	DB	P 1 P * P	1
0002	200691 EA LABEL,DATE CODE,PRODUCTION,.5"X.2"	B	99	CE	X 1 S C P	1
0003	213812 EA IC,HC201,CODE HOP ENCODER,SO-8	C	NP	BW	P 1 P * P	1
0004	203687 EA XSTR,NPN,MMBTH10,SOT-23	A	99	EN	P 1 P C P	2
0006	205011-001 EA DIODE,MMBD914,SWITCH,SOT-23	D	99	BF	P 1 P C P	2
0007	205011-006 EA DIODE,BAV70,DUAL,COM CATH,SOT-23	B	99	EX	P 1 P C P	1
0008	225009 EA RSONATR,372.5MHZ,RO,1 PORT,SM-2	A	NP	EV	P * P * P	1
0009	219623 EA SWITCH,PUSH,MOM,3.5X6,260GF,RED,VMT	B	NP	EG	P 1 P * P	3
0010	109295-103 EA INDCTR,10UH,CER FERRITE,SMD,1008LS	B	99	BQ	P 1 P C P	1
0011	225020 EA INDCTR,.12UH,1300MA,10%,AXIAL	B	NP	BP	P * P * P	1
0012	101894 EA LED,RED,T-1,TIL209A,HI INTENSITY	A	99	CM	P 1 P C P	1
0013	217117 EA CONTACT,BATTERY,GT-31	A	NP	DC	P 1 P * P	2
0014	213383-103 EA RES,CHIP,1/16W,10K,0603,5%	A	NP	DQ	P 1 P * P	5
0016	213383-333 EA RES,CHIP,1/16W,33K,0603,5%	A	NP	DQ	P 1 P * P	1
0018	213383-332 EA RES,CHIP,1/16W,3.3K,0603,5%	A	NP	DQ	P 1 P * P	1
0019	213383-470 EA RES,CHIP,1/16W,47.0,0603,5%	A	NP	DQ	P 1 P * P	1
0020	213419 EA CAP,CER,C,16V104P,X7R,10%,0603	C	NP	AO	P 1 P * P	1
0021	213391 EA CAP,CER,C,50V102P,X7R,10%,0603	B	NP	AO	P 1 P * P	1
0022	213390 EA CAP,CER,C,50V103P,X7R,10%,0603	B	NP	AO	P 1 P * P	1
0023	213430-056 EA CAP,CER,C,50V5R6P,COG,.5PF,0603	B	NP	AO	P 1 P * P	1
0024	213430-022 EA CAP,CER,C,50V2R2P,COG,.5PF,0603	C	NP	AO	P 1 P * P	1
0025	217362 EA LABEL,BLOCK CODE,TX ID,CUSTOM	B	NP	CE	P 1 P * P	1
0026	203814 EA BATT,12V	C	99	AH	P 1 P C P	1
0027	224234 EA KEELOQ CODES,WT SERIES	#	NP	DC	P * P * P	1

PRINTED 24-Nov-04 12:09 PM

LINEAR LLC

EFFECTIVITY DATE: ALL

S I N G L E L E V E L B I L L S O F

PARENT PART: 217184-03

ASSY,PCB,WT-31

UM

ERC: #

SRCE CODE: P

TYPE: *

ABC

ITEM NO	COMPONENT PART NUMBER/ UM PART DESCRIPTION-REMARKS	ERC	PRODUCT CODE	COMM CODE	S	T	S	A	P	EXTENDED QTY PER
0028	203689-151 EA INDCTR,150NH,CER,SMD,1008CS,10%	B	99	L3	BR	P	1	P	* P	1
0029	213383-220 EA RES,CHIP,1/16W,22.0,0603,5%	A	NP	R9	DQ	P	1	P	* P	1
0990	217184 EA ASSY,PCB,GT-31,3 BTN MINI TX	A	NP		DC	P	1	P	* P	0
0991	224227 EA SCHEM,WT-31	#	NP		DC	P	*	P	* P	0
0992	224220 EA TEST PROC,WT ROLLING CODE XMTRS	#	NP		DC	P	*	P	* P	0
0993	224244 EA PROC,BLOCK CODING,WT XMTRS	#	NP		CE	P	*	P	* P	0
0994	217272 EA F/G BLOCK ID TOOL,MARK II	#	NP		DC	P	*	P	* P	0

NOTES:

END OF REPORT